

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: WILDER LAKE	Lake Area (ha):	85.91
Town: LEBANON	Maximum depth (m):	26.2
County: Grafton	Mean depth (m):	---
River Basin: Connecticut	Volume (m <sup>3</sup> ):	---
Latitude: 43°40' N	Relative depth:	---
Longitude: 72°18' W	Shore configuration:	---
Elevation (ft): 380	Areal water load (m/yr):	---
Shore length (m): 11900	Flushing rate (yr <sup>-1</sup> ):	---
Watershed area (ha): 874300.0	P retention coeff.:	---
% watershed ponded: ---	Lake type:	artificial

BIOLOGICAL:

	2 February 1987	15 August 1986
DOM. PHYTOPLANKTON (% TOTAL) #1	PENNATE SPP 23%	FILAMENT. BL-GR SPP 35%
#2	ASTERIONELLA 19%	TABELLARIA 25%
#3	MELOSIRA 19%	FRAGILARIA 10%
PHYTOPLANKTON ABUNDANCE (cells/mL)		1030.0
CHLOROPHYLL-A (µg/L)		3.71
DOM. ZOOPLANKTON (% TOTAL) #1	SYNCHAETA 46%	SPARSE - NO DOMINANTS
#2		
#3		
ROTIFERS/LITER	11	13
MICROCRUSTACEA/LITER	2	2
ZOOPLANKTON ABUNDANCE (#/L)	13	17
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		2.8
BOTTOM DISSOLVED OXYGEN (mg/L)	13.4	6.8
BACTERIA (fecal col., #/100 ml) #1		
#2		
#3		

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>): None

CHEMICAL:

Lake: WILDER LAKE

Town: LEBANON

	2 February 1987		15 August 1986		
DEPTH (m)	7.0	13.0	2.0	10.0	20.0
pH (units)	7.3	7.2	7.2	7.2	7.3
A.N.C. (Alkalinity)	30.5	33.4	23.6	24.9	25.6
NITRATE & NITRITE NITROGEN	0.32	0.33	0.89		0.93
TOTAL KJELDAHL NITROGEN	0.43	0.48	0.45	0.48	0.38
TOTAL PHOSPHORUS	0.026	0.027	0.018	0.021	0.024
CONDUCTIVITY ( $\mu$ mhos/cm)	106.5	106.8	84.6	85.4	85.6
APPARENT COLOR (cpu)	32	32	40	45	40
MAGNESIUM			1.30		
CALCIUM			10.0		
SODIUM			3.5		
POTASSIUM			1.00		
CHLORIDE	5	5	5		5
SULFATE	8	8			
TN : TP	29	30	74		55
CALCITE SATURATION INDEX			1.7		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1986

D.O. S.D. PLANT CHL TOTAL CLASS

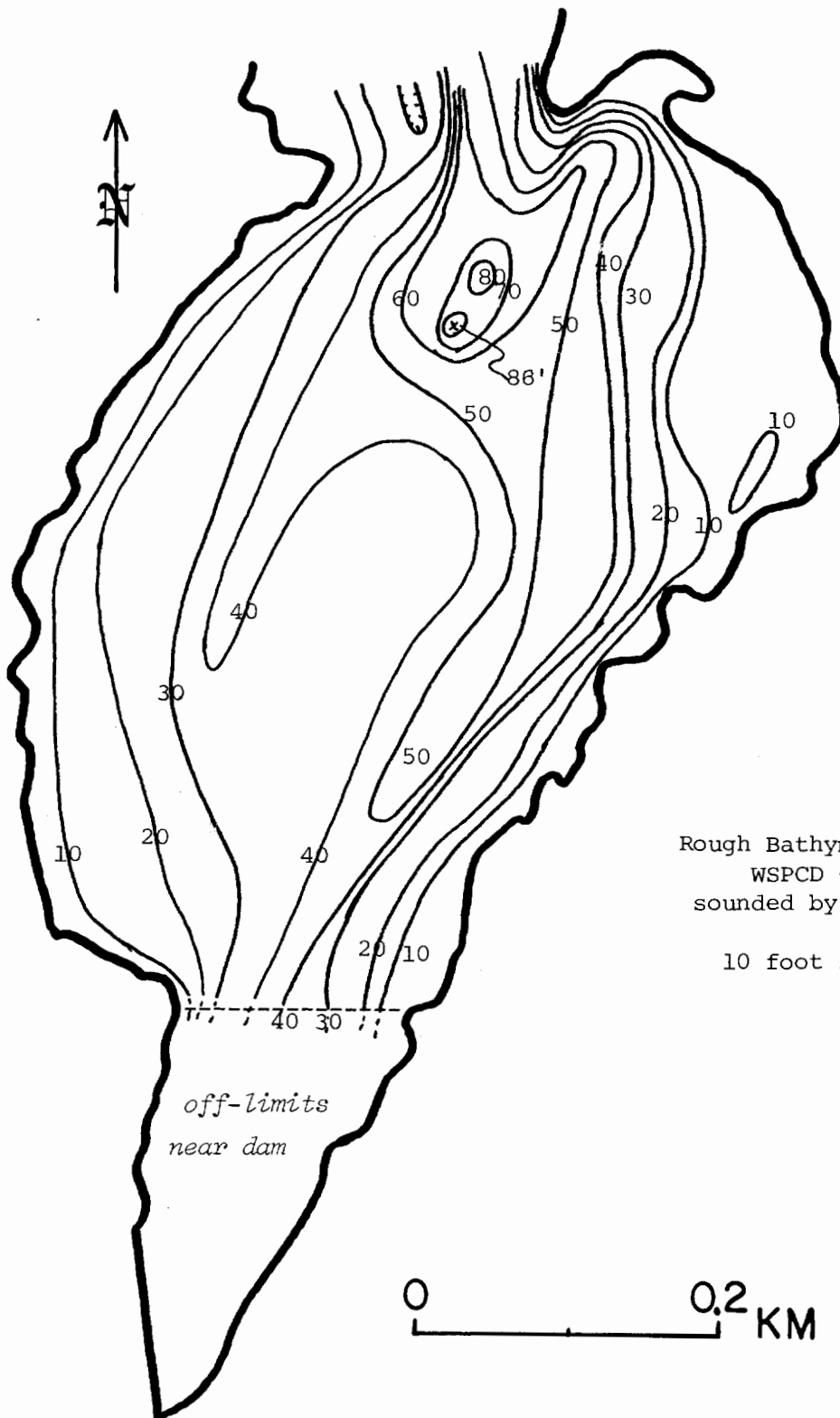
**	2	1	0	3	Oligo.
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COMMENTS:

1. This is a hydroelectric dam impoundment on the Connecticut River.
2. Officially, Wilder Reservoir is 46 miles long, beginning in North Haverhill. It is the second longest lake in New England. We surveyed just the lower end in the immediate vicinity of the dam.
3. Depth soundings were taken in the sampling area, but volume and flushing rate were not calculated since the impoundment extends further upstream.
4. The dominant classes of whole-water phytoplankton were cryptomonads (65%) and greens (25%). Chroomonas (55%) and tiny green flagellates (20%) were the dominant genera.
5. Boat launch was located in Wilder, Vermont.

# WILDER LAKE

LEBANON



Rough Bathymetric Chart  
WSPCD - 1986  
sounded by fathometer

10 foot isobaths

[illegible]

TOWN: LEBANON  
WEATHER: SUNNY. WARM. CALM

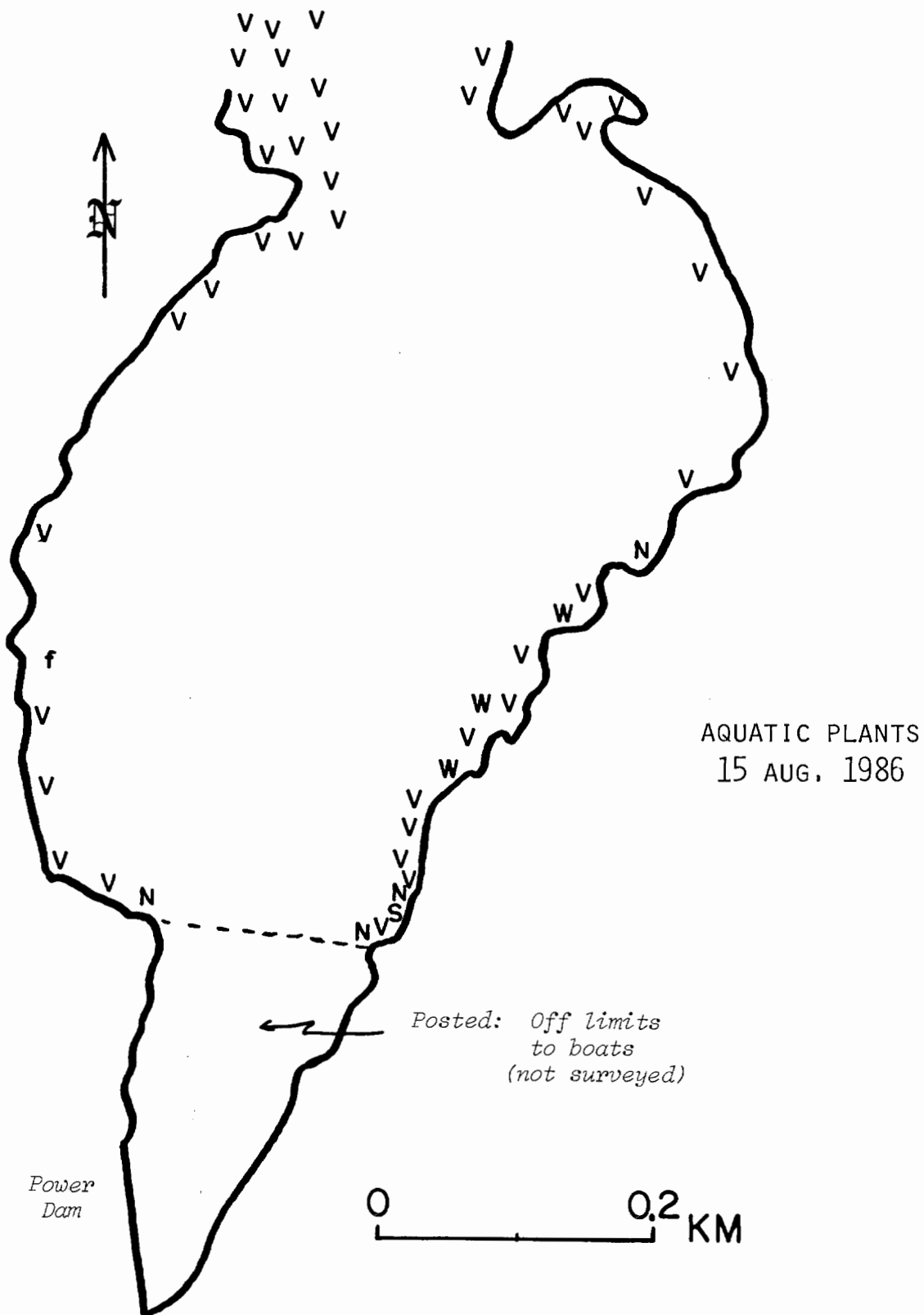
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SECCHI DISK (m): 2.8      COMMENTS:
BOTTOM DEPTH (m): 23.5
TIME: 1230
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\*Dissolved oxygen values are in mg/L

# WILDER LAKE

LEBANON



[illegible]